

3511

Eight-Point Pulse Input Module

Triconex 3511 is an eight-point TMR pulse input module. It measures high-frequency differential sensor signals and supplies voted frequency or RPM data to the control program.

PRODUCT SNAPSHOT

BRAND

Triconex

FAMILY

Tricon pulse input

PART

3511

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PRODUCT OVERVIEW

Triconex 3511 is an eight-point TMR pulse input module. It measures high-frequency differential sensor signals and supplies voted frequency or RPM data to the control program.

- 1

Measures rate from eight balanced high-frequency pulse inputs
- 2

Accepts non-amplified magnetic speed-sensor signals from rotating equipment
- 3

Counts transitions with microsecond timing and produces frequency or RPM data
- 4

Uses three isolated channels and voted data for high-integrity speed measurement

SYSTEM COMPONENTS

9753-110 or 9793-110 termination panel

magnetic speed sensor

Tricon I/O chassis and main processors

balanced shielded pulse wiring

RELATED PRODUCTS ON APTER POWER

MODEL	SYSTEM ROLE	APTER POWER PAGE
Triconex 3504E	High-Density Digital Input Module	Open product page
Triconex 3008	Main Processor Module	Open product page
Triconex 4210	Remote Extender Module Set	Open product page
Triconex 4119A	Enhanced Intelligent Communication Module	Open product page

TECHNICAL DATA

PARAMETER	VALUE
Module type	TMR pulse input
Input signals	8 non-commoned
Frequency range	20 Hz to 20 kHz
Resolution	16 bit
Accuracy	+/-0.01% from 1 kHz to 20 kHz
Update rate	25 ms typical
Input coupling	AC coupled; balanced differential
Input impedance	>8 kOhm; 20 kOhm typical
Common-mode range	-100 to +100 VDC peak-to-peak

PARAMETER	VALUE
Overrange protection	+/-150 VDC continuous
Typical hysteresis	150 mV
Duty cycle	10% to 90%
Wave shapes	Sine; square; pulse
Current input option	0-20 mA with 250 Ohm shunt
Input indicators	1 per point
Module indicators	PASS; FAULT; ACTIVE
Compatible basic panel	9753-110
Compatible nonincendive panel	9793-110

TECHNICAL NOTE

Preserve balanced differential wiring and sensor polarity, confirm signal amplitude and frequency inside the published range, and validate RPM scaling plus trip action after installation.

APPLICATIONS & PRECAUTIONS

COMMON APPLICATIONS

Turbine overspeed measurement

Measures rate from eight balanced high-frequency pulse inputs

Compressor shaft-speed monitoring

Accepts non-amplified magnetic speed-sensor signals from rotating equipment

Rotating-equipment rate feedback

Counts transitions with microsecond timing and produces frequency or RPM data

High-integrity magnetic pickup acquisition

Uses three isolated channels and voted data for high-integrity speed measurement

PRODUCT PRECAUTIONS

- 1 Verify 3511 and the eight assigned speed channels before removing the module.
- 2 Place the rotating machine and overspeed function in the approved maintenance state.
- 3 Isolate sensor circuits and record IN+/IN- polarity and shield grounding.
- 4 Confirm amplitude, frequency, duty cycle, and common-mode voltage remain within limits.
- 5 Use 9753-110 or the documented nonincendive panel; do not substitute a totalizer-only arrangement.
- 6 Keep unused pulse-input points shorted as specified for the termination panel.
- 7 Inject controlled frequencies and compare indicated frequency or RPM on all three channels.
- 8 Review PASS/FAULT/ACTIVE status and prove overspeed logic before return to service.

ENGINEER FAQ

Q1 What check is required for 20 Hz to 20 kHz signal verification when commissioning 3511?

Apply a controlled signal or command within the documented range and compare the field result, controller indication, and product diagnostics before normal operation.

Q3 How is 25 ms update and RPM scaling handled during a 3511 replacement?

Record the installed state first, isolate the associated process function, reproduce only the approved model-specific arrangement, and verify it before energization.

Q5 Can 3511 be substituted for a similar Triconex model without a configuration review?

No. Confirm the exact model, companion hardware, signal execution, system version, and approved configuration before any substitution.

Q7 Which installed hardware must be matched before fitting 3511?

Match 3511 to 9753-110 or 9793-110 termination panel and magnetic speed sensor, then confirm the complete physical marking and assigned Tricon pulse input position.

Q2 Which installation error is most important to prevent on 3511?

Do not interchange 3511 with an adjacent execution or alter its matched 9753-110 or 9793-110 termination panel; the exact electrical, channel, and connector arrangement must be retained.

Q4 Which diagnostics should be reviewed after installing 3511?

Review the applicable point, module, power, communication, or load indicators for 3511, then confirm the intended role: measures rate from eight balanced high-frequency pulse inputs.

Q6 What evidence should be retained after pulse input versus pulse totalization testing on 3511?

Retain the full 3511 identity, as-left connections or settings, final diagnostics, measured functional-test result, and authorization to return the affected process function to service.

Q8 How should an engineer verify balanced magnetic pickup input for 3511?

Use the approved connection drawing and the model-specific values in Tricon Systems Technical Product Guide; preserve the as-found terminal, connector, polarity, shield, and channel identity.